

REMARKS

The Examiner has rejected Claims 1-2, 5-13, and 15-24 as unpatentable over the teachings of the Brouwer patent in view of Haley; and Claim 14 as unpatentable over the combined teachings of Brouwer, Haley and Knorr. For the reasons set forth below, Applicants believe that the claims are patentable over the cited prior art.

The present invention is directed to a method and system for automated testing of software having the following:

- (i) a test bucket for storing sets of test data,
- (ii) a job receiver process, for accepting test requests from a user, each test request comprising an identifier for selecting test data from the test bucket,
- (iii) a resource process and resource pool for managing system resource data to indicate resources available for software testing on a set of client computer systems, and
- (iv) a job execution process for creating test execution script data based on the test data identified in the test request and on the available resources, wherein the job execution process receives the test request from the job receiver process, dynamically creates the test execution script based upon the resource pool indicating the availability of resources required for the execution of the

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test on one or more of the set of client computer systems, and initiates testing by forwarding the test execution script data to the appropriate one or more of the set of client computer systems, and wherein the system server component has means for accepting and storing test results from the set of client computer systems.

As is expressly recited in all of the pending claims, the job execution process dynamically creates test execution script data based on the test data identified in the test request and based on the pool of resources which are available for executing the test on one or more client computers. While the claims already recited that the test execution test script was created based on the test data and available resources, Applicants have again amended the language of the independent claims to more clearly recite that the job execution process uses both the test data and the indication of the available resources received from the resource process for creating the test execution script data.

In contrast, the Brouwer patent teaches a system and method for testing hardware or software applications wherein the test scripts are created by a script writer, the test scripts are stored at the test case generator, and the test case generator deploys a test case for an application. As is clearly taught by Brouwer, the test scripts are not created by the test case

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generator. Rather, the test case generator is "...provided with a plurality of test scripts which, save for a few utility libraries, are created by the user" (see: Col. 2, lines 50-53). Brouwer further teaches that its system "...allows the user...to...develop test scenarios" (Col. 3, lines 5-10) and further details the test writer's interface (Col. 4, lines 1-3); utilities accessible to the script writer (Col. 4, lines 18-19; Col. 5, lines 64; Col. 6, lines 61-62; Col. 8, lines 51-54 and line 64; Col. 9, lines 6-7); user created and retrievable semaphore handles (Col. 4, lines 20-21); user defined dispersion patterns (Col. 4, lines 25-26); user's full control of the resources (Col. 4, line 55); user or test engineer design of the test (Col. 6, lines 15-17); automatic event generation based on user defined processes (Col. 16, lines 31-34); user allocation of devices (Col. 18, lines 29-31, Col. 19, lines 40-41, and Col. 20, lines 16-18); and, in the process flow discussed in Col. 28, user selection of actions from a main menu, user input to information screens, and user modifications to the tests (Col. 28, lines 46-67). The Brouwer description further states that "the [system]...gives the user as much customization capability as possible" (Col. 7, lines 42-44). It is clear that Brouwer teaches a system wherein test scripts are created by users/script writers. The test case generator simply stores those scripts and "generates" a test case for an application by deploying a test

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script which has already been created and stored, and which may have additionally been further modified by user input.

Moreover, the Brouwer test case generator does not even perform the function of allocating test scripts to devices. Rather, as expressly taught by Brouwer at Col. 3, lines 54, "[e]ach script manipulates at least one device" and "[each] script...is capable of retrieving access to that device...[and] allocates their own devices" (Col. 4, lines 42-48). While Brouwer teaches that scripts allocate their own devices, user modification of device allocation is also taught in Brouwer at Col. 15, lines 13-15 wherein it states that a "user must be able to determine that a legitimate reason exists for starting the process on a remote machine", at Col. 18, lines 29-31 wherein it is taught that the test engineer queries about device, as well as at Col. 19, lines 40-41 and Col. 20, lines 16-18 wherein it is stated that the "user allocates devices".

Applicants respectfully assert that the Brouwer patent teaches a system wherein test scripts are written by users or script writers. Under Brouwer, test scripts are not generated by the test case generator. In addition, the Brouwer patent clearly teaches that test scripts are stored at the test case generator, but are neither created nor modified by the test case generator. Further, Brouwer clearly teaches that scripts are allocated to

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devices either by the scripts themselves or by a user. Brouwer also expressly teaches that "the user is allowed full control of the resources through the resource allocation utility" (Col. 4, line 55 et seq) and that the utility can generate an "unavailable resource error", which clearly would not occur in a system wherein a test script was dynamically created with knowledge of all available resources.

Applicants respectfully contend that the Brouwer patent neither teaches nor suggests the invention as claimed. In response to the Examiner's citations of Brouwer patent teachings as applied to the claim language, Applicants note the following:

(i) A test bucket for storing sets of test data is supposedly taught at Col. 1, lines 53-67. However, a review of those teachings shows no discussion of a test bucket having test data which will be used to generate test execution scripts. Rather, Brouwer teaches that its test case generator stores test scripts which have been created by a user/script writer (Col. 2, lines 63-65).

(ii) With regard to the job receiver process, for accepting test requests from a user, each test request comprising an identifier for selecting test data from the test bucket, Applicants note that the cited teachings found in Col. 1, lines 53-67 do not mention receiving a test request from a user, let alone receiving a test request having an

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identifier for selecting test data from a test bucket. Rather, since a Brouwer user creates and modifies the test script, no identifier would be applicable.

(iii) With regard to the claimed resource process and resource pool for managing system resource data to indicate resources available for software testing on a set of client computer systems, the Examiner has cited Col. 4, lines 43-62. Applicants note that the cited passage expressly teaches that a Brouwer test script retrieves access to a device. Clearly such is not the same as or suggestive of a test script which is dynamically created based on test data and available devices. The Brouwer test script could not allocate its own device if the test script was not created until available devices were known.

iv) With regard to the job execution process for creating test execution script data based on the test data identified in the test request and on the available resources, wherein the job execution process receives the test request from the job receiver process, dynamically creates the test execution script based upon the resource pool indicating the availability of resources required for the execution of the test on one or more of the set of client computer systems, and initiates testing by forwarding the test execution script data to the appropriate one or more of the set of client computer systems, Applicants note that the cited

teachings from Col. 3, lines 53-67 discuss the synchronizing between test scripts. The cited passage does not teach or suggest creating test execution script data based on test data and available resources. Moreover, if Brouwer's scripts allocate their devices, and subsequent synchronization is needed, then clearly the scripts have not been created dynamically with knowledge of the available resources.

Applicants respectfully argue that the Brouwer patent does not teach or suggest the invention as claimed. Applicants note that the Examiner has acknowledged that Brouwer does not disclose a process indicating resources available for software testing and has additionally cited the Haley patent. While the Haley patent does disclose a process for indicating available resources, Applicants respectfully assert that the combination of Haley and Brouwer would still not obviate the invention as claimed. Neither Brouwer nor Haley teaches or suggests (i) a test bucket for storing sets of test data, (ii) a job receiver process, for accepting test requests from a user, each test request comprising an identifier for selecting test data from the test bucket, (iii) a resource process and resource pool for managing system resource data to indicate resources available for software testing on a set of client computer systems, and (iv) a job execution process for creating test execution script data

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based on the test data identified in the test request and on the available resources, wherein the job execution process receives the test request from the job receiver process, dynamically creates the test execution script based upon the resource pool indicating the availability of resources required for the execution of the test on one or more of the set of client computer systems.


Even if one were to modify Brouwer with the teachings of the Haley patent, that resource availability information would be provided to the user, consistent with the Brouwer patent teachings regarding test engineer queries about devices found at Col. 18, lines 29-31, and the Brouwer patent teachings regarding user allocation of devices found at Col. 19, lines 40-41 and Col. 20, lines 16-18. The resource availability information would now, however, be provided for use in dynamically generating test scripts by a job execution process, as is expressly recited in all of the pending claims. Clearly, the combination would not yield the invention as set forth in the pending claims. Accordingly, Applicants request withdrawal of the rejection of Claims 1-2, 5-13, and 15-24.

With regard to the rejection of Claim 14, Applicants rely on the arguments presented above with respect to the combination of teachings from Brouwer and Haley. Moreover, the Knorr
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reference does not provide the teachings which are missing from the combination of Brouwer and Haley. The Knorr patent discloses the use of a DOS system with an essential set of programs to enable a computer to run. Those teachings would not, however, motivate one skilled in the art to modify the Brouwer and Haley combination in such a way as to render Claim 14 obvious. Accordingly, Applicants believe that Claim 14 is not rendered obvious.

Based on the foregoing remarks, Applicants respectfully request entry of the amendments, withdrawal of the rejections, and allowance of the claims.

Respectfully submitted,
C. Conan, et al

By: 
Anne Vachon Dougherty
Attorney for Applicant
Reg. No. 30,374

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